

REMARKS/ARGUMENTS

The Office Action mailed October 14, 2009, has been reviewed and these remarks are responsive thereto. Claims 3, 6, 11, 15, and 16 were previously canceled. Claims 1, 19 and 21 have been amended to correct a typographical error. No new matter has been added. Claims 1, 2, 4, 5, 7-10, 12-14, and 17-22 remain pending. Reconsideration and allowance of the instant application are respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 1, 2, 4, 5, 7-10, 14 and 17-22 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Pat. No. 6,516,205, hereinafter Oguma, in view of U.S. Pat. No. 6,393,588, hereinafter Hsu. Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Oguma and Hsu in view of U.S. Pat. No. 7,349,689, hereinafter Chandley. Applicants respectfully traverse.

Claim 1 recites, *inter alia*:

the first port voltage supply connection, the first port ground connection, the first port first data connection and the first port second data connection are connected directly respectively to the second port voltage supply connection, the second port ground connection, the second port first data connection and the second port second data connection by the bus

Neither Oguma nor Hsu teach or suggest such features. Hsu describes nothing more than a standard USB hub, which is well known in the art and which has a well understood operation (see, e.g., http://en.wikipedia.org/wiki/USB_hub). More specifically, in a conventional USB hub, there is no direct connection between the D+/D- lines of different ports in a HUB because the HUB maintains different states depending on the mode of the connected HOST, and also depending on a status of connected or not connected devices at available downstream ports. This is even more apparent by referencing the USB 2.0 specification, which can be downloaded from http://www.usb.org/developers/docs/usb_20_040908.zip (see [usb_20.pdf](#), hereinafter "USB2.0"). In USB2.0, chapter eleven (starting on p. 297), it is disclosed at least in Figure 11-1 (p. 298) that there is no direct connection. In addition, section 11.1.1 further states:

The Hub Repeater is responsible for connectivity setup and tear-down. It also supports exception handling, such as bus fault detection and recovery and connect/disconnect detect. The Hub Controller provides the mechanism for host-to-hub communication. Hub-specific status and control commands permit the host to configure a hub and to monitor and control its individual downstream facing ports. The Transaction Translator responds to high-speed split transactions and translates them to full-/low-speed transactions with full-/low-speed devices attached on downstream facing ports.

USB2.0, p. 297. Section 11.1.2 further states that “Hubs exhibit different connectivity behavior depending on whether they are propagating packet traffic, or resume signaling, or are in the Idle state.” USB2.0, p. 298. Furthermore, section 11.1.2.1 indicates that:

If a downstream facing port is enabled (i.e., in a state where it can propagate signaling through the hub), and the hub detects the start of a packet on that port, connectivity is established in an upstream direction to the upstream facing port of that hub, *but not to any other downstream facing ports*. This means that when a device or a hub transmits a packet upstream, only those hubs in line between the transmitting device and the host will see the packet. Refer to Section 11.8.3 for optional behavior when a hub detects simultaneous upstream signaling on more than one port.

In the downstream direction, hubs operate in a broadcast mode. When a hub detects the start of a packet on its upstream facing port, it establishes connectivity to all enabled downstream facing ports. If a port is not enabled, it does not propagate packet signaling downstream.

USB2.0, p. 299.

Taken together, the above portions of USB2.0 indicate that a hub operating according to the USB 2.0 specification has no direct communication between the downstream ports. Indeed, **providing direct communication between the downstream ports of a USB hub would defeat the required functionality of the USB hub** because the hub could then not support the required functionality as defined by the USB specification.

Independent claims 19 and 21 contain similar features as referred to above with respect to claim 1. Oguma and Hsu, alone or in combination, therefore do not teach or

suggest the features of any independent claim. Each dependent claim is allowable at least for similar reasons as its respective base claim, and further in view of the features recited therein, because the additional cited references do not cure the aforementioned deficiencies in Hsu and Oguma.

CONCLUSION

All rejections having been addressed, Applicants respectfully submit that the instant application is in condition for allowance, and respectfully solicit prompt notification of the same.

Respectfully submitted,

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Dated: December 9, 2009

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